

-12-

CLAIMS:

1. A bone resection device for use in resection of bone during joint replacement surgery, the device comprising:

- a. a cutting tool housing,
- b. at least one cutting tool which is fastened to the housing so that it can be moved reversibly between a retracted position and an extended position, in which it extends further from the housing in the extended position than in the retracted position,
- c. an elongate shaft to which the cutting tool housing is attached at or towards one end, the shaft having a control region at its other end from which the resection device is controlled while the cutting tool housing is located in the vicinity of bone tissue which is to be resected,
- d. a device for controlling the position of the cutting tool relative to the housing, the device extending along the shaft and being movable relative to the shaft along the axis defined by the shaft, and being rotatable relative to the shaft around the said axis, the device engaging the cutting tool by means of a cam arrangement in which one of the control device and the cutting tool has an elongate cam track formed in it and the other has a reciprocating follower which can slide in the track, the track being non-parallel to the axis of the shaft,

so that movement of the control device along the shaft causes relative movement of the follower along the cam track, to cause the position of the cutting tool relative to the housing to change.

2. A device as claimed in claim 1, in which there are at least two cutting tools in the housing.

3. A device as claimed in claim 2, in which each of the said cutting tools is fastened to the housing pivotally so that it can be moved pivotally between retracted and extended positions.

-13-

4. A device as claimed in claim 2, in which the cutting tools are fastened to the housing in opposed manner such that when one of the cutting tools is caused to move in one direction the other cutting tool is caused to move to about the same degree in the opposite direction.
5. A device as claimed in claim 1, which includes a handle with a bore extending through it in which the shaft is mounted for rotation.
6. A device as claimed in claim 5, in which the movement of the control device relative to the shaft is controlled by means of a cam surface extending in a plane generally perpendicular to the axis defined by the shaft and a cam follower, in which one of the cam surface and the follower is fixed relative to the handle, and the other is fixed relative to the control device, relative rotational movement between the control device and the handle causing the follower to move over the cam surface, and causing relative axial movement between the control device and the shaft.
7. A device as claimed in claim 6, in which the cam surface is provided on the control device and the cam follower is fixed relative to the shaft.
8. A device as claimed in claim 6, in which the cam surface is provided on a removable part of the device.
9. A device as claimed in claim 5, which includes a locking mechanism for locking the axial position of the shaft relative to the handle.
10. A device as claimed in claim 9, in which the locking mechanism can be adjusted to provide different locked axial positions of the shaft relative to the handle.
11. A device as claimed in claim 9, in which the shaft includes a threaded portion, and in which the locking mechanism comprises a locking ring which can fit on to the threaded portion of the shaft.

-14-

12. A device as claimed in claim 11, in which the locking mechanism comprises a spacer ring which can be fitted between the locking ring and the handle to determine the axial position of the shaft relative to the handle.
13. A device as claimed in claim 1, in which the shaft includes a connector formation by which it can be connected to a drive unit for imparting rotational movement to the shaft.
14. A device as claimed in claim 1, in which the cutting tool is generally elongate in shape, with a cutting edge towards one end and the elongate cam track or reciprocating follower for engaging the control device at its opposite other end.
15. A device as claimed in claim 1, which includes a protruding boss which is aligned with the shaft and provided on the end which is remove from the shaft.